IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
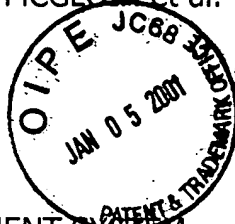
In re the application of: Cathal MCGLOIN et al.

Serial No.: 09/672,829   Group Art Unit: 2151

Filed: September 29, 2000

For: PERFORMANCE MANAGEMENT SYSTEM

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Technology Center 2100

CLAIM OF PRIORITY
UNDER 35 U.S.C. § 119

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

The benefit of the filing date of prior foreign application No. **990665** filed in

Ireland on **August 3, 1999**, is hereby requested and the right of priority provided in 35

U.S.C. §119 is hereby claimed.

In support of this claim, filed herewith is a certified copy of said original foreign

application.

Respectfully submitted,

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By:_____
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Atty. Docket No.: P65973US0
Date: January 5, 2001
JCH:iy

Patents Office
Government Buildings
Hebron Road
Kilkenny

I HEREBY CERTIFY that annexed hereto is a true copy of documents filed in connection with the following patent application:

Application No.   990665

Date of filing   3 August 1999

Applicant   PERFORMIX RESEARCH LIMITED, An Irish company of 4A Princes Street South, Dublin 2, Ireland.

Dated this 25 day of October, 2000.

Richard O'Callaghan

An officer authorised by the
Controller of Patents, Designs and Trademarks.

FORM NO. 1

99/0665

990665

REQUEST FOR THE GRANT OF A PATENT

PATENTS ACT, 1992

The Applicant(s) named herein hereby request(s)

    __X__   the grant of a patent under Part II of the Act

    _____   the grant of a short-term patent under Part III of the Act
on the basis of the information furnished hereunder.

1.   <u>Applicant(s)</u>

<u>Name</u>   Performix Research Limiited

<u>Address</u>   4A Princes Street South
             Dublin 2
             Ireland

<u>Description/Nationality</u>

       An Irish company

2.   <u>Title of Invention</u>

       "A data processing system"

3.   <u>Declaration of Priority on basis of previously filed application(s) for same invention (Sections 25 & 26)</u>

<u>Previous filing date</u>	<u>Country in or for which filed</u>	<u>Filing No.</u>

4.   <u>Identification of Inventor(s)</u>
       Name(s) of person(s) believed
       <u>by Applicants(s) to be the inventor(s)</u>

       <u>Name:</u>   McGLOIN, Cathal an Irish citizen of
       <u>Address:</u> 4A Princes Street South, Dublin 2, Ireland

       <u>Name:</u>   McGLOIN, Raymond an Irish citizen of
       <u>Address:</u> 4A Princes Street South, Dublin 2, Ireland

5. <u>Statement of right to be granted a patent (Section 17(2) (b)</u> — **990665**

The Applicant derives the rights to the Invention by virtue of a Deed of Assignment dated July 15, 1999

6. <u>Items accompanying this Request – tick as appropriate</u>

(i) __X__ prescribed filing fee (£100.00)

(ii) __X__ specification containing a description and claims

_____ specification containing a description only

__X__ Drawings referred to in description or claims

(iii) _____ An abstract

(iv) _____ Copy of previous application (s) whose priority is claimed

(v) _____ Translation of previous application whose priority is claimed

(vi) __X__ Authorisation of Agent (this may be given at 8 below if this

Request is signed by the Applicant (s)

7. <u>Divisional Application (s)</u>

The following information is applicable to the present application which is

made under Section 24 –

Earlier Application No: ....

Filing Date: ....

8. <u>Agent</u>

The following is authorised to act as agent in all proceedings connected

with the obtaining of a patent to which this request relates and in relation

to any patent granted -

<u>Name</u>	<u>Address</u>
John A. O'Brien & Associates	The address recorded for the time being in the Register of Patent Agents, and currently Third Floor, Duncairn House, 14 Carysfort Avenue, Blackrock, Co. Dublin, Ireland.

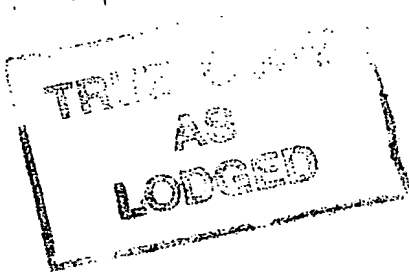9. <u>Address for Service (if different from that at 8)</u>

As above

Signed _____ JOHN A. O'BRIEN & ASSOCIATES

<u>Date</u>   August 3, 1999

"A data processing system"

Introduction

5   The invention relates to data processing systems, particularly for performance measurement in an environment such as a call centre or an insurance organisation.

An object of the invention is to provide such a system having versatility whereby data may be captured and processed from a wide variety of sources.

10

Another object is that the system provides versatility and comprehensiveness in the range of performance data processing operations carried out.

Statements of Invention

15

According to the invention, there is provided a data processing system comprising:-

data capture means for writing application data to a database;

20   a data dictionary for processing the application data and generating a data repository; and

a performance measurement means for automatically generating performance data from said repository.

25

In one embodiment the data capture means comprises a plurality of APIs.

In one embodiment, the application data is written to the database in a flat format.

Preferably, the performance measurement means comprises object wizard functions, feeding data to performance review and appraisal review functions.

In another embodiment, the performance measurement means comprises a KPI module
5   for generating KPI data.

Preferably, the performance measurement means comprises a team administration module.

10   Preferably, the performance measurement means comprises a personal development module.

In another embodiment, the performance measurement means comprises a configuration function for setting up static data for particular modules.
15

Detailed Description of the Invention

The invention will be more clearly understood from the following description of some embodiments thereof, given by way of example only with reference to the accompanying
20   drawings in which:-

Fig. 1 is an overview of a data processing system of the invention; and

Fig. 2 is a more detailed diagram illustrating the system;
25

Fig. 3 is a diagram showing a database of the system; and

Figs. 4 to 6 inclusive are screens for operations of the system.

Referring to Fig. 1, a system of the invention comprises the following components:

5

2 – system configuration

3 – approval review interface

4 – database

5 – switch/workflow management data warehouse

6 – an imported Key Performance Indicator (KPI) generated database

10

The system captures data from various third party applications 10.

The system 1 is shown in more detail in Figs. 2 and 3. Fig. 2 shows the applications, and Fig. 3 the database interaction.

15

An important aspect of the system is that raw data is captured into a database. This is achieved using APIs linked to the various third party applications. This data is then processed using a data dictionary to generate structured datasets or by the performance measurement functions of the system. The database handling functions are shown Fig. 2.

20

The call centre configuration allows users to set up initial information and settings for each site whereby each site has a database and configuration record.

25

The data dictionary maintenance module allows the user to formulate fields within the database. Fields for data capture are set in an Objective wizard, and KPI wizards are created within this facility. Fields for manual entry may be defined using a Data Dictionary Maintenance module.

30

Fig. 4 shows a sample data dictionary screen display which allows a user to define a new field. Fig. 5 shows a screen to allow input of data dictionary formula. This screen has two objectives, as follows.

1. Assigns the Data Dictionary name to a database field, allowing a reference to the field using a more user-friendly name, as opposed to a cryptic database name.

2. To define how a Data Dictionary field is calculated using Regular Expressions. For complicated formulae, the formula is split into two sections such that the formula is simplified to Value 1 Operator Value 2 e.g. Value 1/Value 2.

Fig. 6 is a sample screen for defining data dictionary rules. Such rules determine how the result for data dictionary fields are entered, displayed, and calculated.

This utility allows the user to define Appraisal Rating Groups within the system. Each group can have up to ten Appraisal Ratings which are used when employees are appraised and their objectives rated. The review periods available for the system are also defined within this utility. These review periods dictate the tabs for utilities such as Personal Performance Review and Team Performance Review, as well as dictate the periods (apart from Daily and Weekly) when ratings can occur.

The user creates the appraisal rating groups and these are used throughout the system. These appraisal ratings form an integral part of the system and are used in numerous places from the Objective Wizard to the performance review screens.

Separate Appraisal Rating Groups are set up only where the rating definitions of appraisal results are different.

The Objective Class Configuration Wizard function allows users to define an Objective Class. This field can then be associated with an Objective, thus allowing the user to class/sort objectives for reporting purposes **only**.

When creating a new objective, this function provides a 'wizard' to assist the user through the process. Once an objective has been created, the same objective can be amended through the use of property pages.

5   An objective is a performance expectation, which is assigned to an individual. The individual is then measured against the performance criteria for example average handling time. This measurement is compared to the objective target and rated accordingly. The parameters such as target and rating thresholds are defined within the Objective Wizard.

10

The Objective Group Configuration function allows the users to create and administer Objective Groups for the purposes of easy handling of objectives. An objective group, as its name indicates, is merely a group of objectives, which are grouped together – the only constraint is that the objectives will all have the same appraisal definitions

15

The Task Manager Configuration function allows the implementation consultants and system administrators to configure the "events" which are flagged to the team leader or manager automatically under the task manager module. The principle behind the task manager is that certain events are automatically monitored by the system. Events such as

20   individuals failing to meet targets, or actions created in the personal development plan by the training department, are flagged to the team leader or manager to indicate that some action is necessary. This saves the team leader/manager from having to individually check each screen to find any areas that require urgent attention. For example:-

25   :   If an agent failed to meet, or over achieved a target. (Over achievement can often be as suspicious as under achievement because it often indicates that someone is manipulating something.)

The following events will be monitored in release 1:

30

creation of an action in the personal development plan

reminder to review an action which has been carried out in an individuals personal development plan after a preset time

5 an agent entering a comment against their daily objectives which needs to be reviewed by the team leader (for decision on exclusion from score)

reminder to manually enter performance measurement data or ratings.

10 monitoring of team leaders who override objective ratings (i.e.: flags those people who override the rating with a manual entry to their manager)

monitors under and over performance of each personal objective against a target (i.e.: flags if under performance is below a set threshold or over performance is

15 greater than a set threshold)

monitors under and over performance of each team objective against the target

The Task Manager function acts as a reminder to team leaders/managers of

20 issues/reviews that need attention. This short-cuts the whole review/checking process for the individual, instead of having to go through each Users Personal Development Plan or Team Performance Review or Personal Performance Review. The task manager can be configured to highlight pending action or reviews defined in the Personal Development Plans, any comments made by the agent via the Personal Performance Review and

25 reminder of manual objective measurement entries and/or informed of objective rating over-rides.

The Performance Exception Coded Configuration function allows the user to configure standard codes which the managers then use in Team Performance Review to mitigate against poor performance for an individual in their team.

5

The basic principle behind this is that the agents (and team leaders) take responsibility for their own performance and enter comments against their performance (good or bad) in Personal Performance Review. The manager then has the ability in Team Performance Review to exclude/override the result for that day from their overall result and from any

10 averages. They must however enter a code for the exception; this will be reported to management and will highlight the various reasons for excluding bad results.

This screen is the configuration screen to set up the standard reason codes and is mainly used during the initial system installation. Ongoing changes or additions may be needed as the conditions change.

15

The Personal Development Modules Configuration function permits the user to define generic training and/or coaching and development initiatives, which can then be assigned to an individual user in their Personal Development Plan by their manager.

20 The KPI Wizard function allows users to define all the key performance indicators associated with the call centre or a subset of the call centre e.g.: customer services. The KPI's are similar to objectives except that they are not assigned to individuals and are not rated. They are merely used to report status. Typical KPI's are Service Level, Abandon Rate, Number of Calls, Total Revenue etc. If the ACD system has been configured to

25 have more than one Skill Group e.g.: Customer Services and Telesales, then it makes sense to have a KPI for each of these i.e.: Customer Service Level, Telesales Service Level. The KPI data is more frequent than the objective data. The ACD system typically produces service level and other information associated with skill groups (also called applications or queues) every half-hour. This means that the system will be receiving

30 half-hourly KPI data from the ACD system.

The KPI's are not rated but they will have a target for reference purposes. For example, a call centre might state that the abandon rate target is 5% or less. This can then be shown on the graph or report alongside the actual data to show how the call centre is doing. In future releases, the system will do more value-added analysis of this data but for the initial release the requirement is to report it and display it in graph format.

A KPI Group Review Configuration function allows users to group a number of Key Performance Indicators together for display or reporting purposes (i.e.: this is the configuration screen for KPI Group Review). All the KPI's will have been created using the KPI wizard and the data is available in the database. KPI's will probably have been set up for the call centre as a whole (service level, abandon rate, revenue, cost customer satisfaction etc.) but also for the different skill groups within the call centre. For example, if a call centre handles customer service queries as well as telesales, the ACD will probably have been configured to handle these skill groups separately (using queues or applications). The call centre management will want to report and view the data on these entities, (which comes mainly but not entirely from the ACD). KPI's will have been setup for Customer Service level, abandon rate etc. as well as other KPI's for Telesales Service Level abandon Rate etc.

This function allows the users to group relevant KPI's together and view them on the same screen.

A KPI Group Review function allows users to view Key Performance Indicator data. It will show the actual data and the static target (if it has been set up) which has been configured using the KPI Wizard. The user can view a group of KPI's for a particular date (assuming that the data falls within the live-data period and has not been archived) and can look at the intra-day, daily, weekly, monthly, quarterly, 6 monthly and yearly figures as well as trend data in graphical format.

Call centre managers and Group leaders who want an overall view of the call center operation will normally use this function. The call centre manager will probably have one overall group of KPI's that they may want to see all the time (they may even have this view permanently on their screen as in some call centres). They will also have a number

5 of other selections which shows other important KPI's – possibly to do with the different functions of the call centre **i.e.:** they may have a selection for Customer Service, and one for Telesales and one for Renewals.

Another possibility is the use of KPI's by the organisation manager. The organisation

10 manager will require KPI results achieved by each call centre **e.g.:** if the call centres are in different locations. In this case, the manager will want to query each individuals site's KPI's as well as a global view of KPI's for the whole organisation **i.e.:** amalgamation of each sites results into overall organisation results.

15 Other key users of the system will be the people responsible for the different functional areas (managers or team leaders) such as Customer Service, Renewals, Back Office etc.

A Performance Appraisal Manager Configuration function sets up the static data used in the Performance Appraisal Manager, for a specific Appraisal Rating Group and level in

20 the hierarchy. This data represents the Review/Appraisal Process, in the Guidelines tab, and the text box headers used in the Additional tab (maximum of 10) of the Performance Appraisal Manager.

A Performance Appraisal Manager function is used as an on-line tool for individual

25 performance appraisal. It is the view of the overall performance achievements of the individual, by performance review periods, for a particular year.
These performance review periods are set up via Appraisal Rating Group Configuration Utility and are graphically represented in the performance appraisal calendar, situated at the top of the screen.

30

The performance appraisal calendar is used as a navigational tool which, depending on the review period selected will change the information contained within each of the screen tabs. It is visible for all tabs and the review period may be changed at any time. The year can be changed at any time via the drop down combo box.

5

The information contained within this function will directly feed into the Appraisal Summary Report.

A Personal Development Plan function is dedicated to allowing managers/team leaders to plan and record employee development modules against specific objectives. The User

10 may also view his/her personal development and the history of associated actions.

A Personal Performance Review function allows the user to view Performance data relating to their own personal objectives **i.e.:** those objectives within their assigned objective group. It will show the individual's targets, results and ratings for each

15 objective. Targets and ratings are only displayed if the review period selected **i.e.:** daily, weekly tab, is defined as a rating period for the objective. The user can review their performance against objectives on a daily and weekly basis as well as for the review periods as defined in Appraisal Rating Group Configuration. A user can review historical data against the period selected, **i.e.:** if they are looking at weekly data, then they can

20 review historically by week and if daily then by day, but only in keeping with the archiving rules for the data. If daily tab is selected and today is 1/2/99, they cannot view their performance for 1/10/98 if we archive daily data after 30 days.

This function will normally be used by agents, team leaders and managers (it is

25 improbable that organisations may set objectives such as these for senior managers or directors) to review ONLY their OWN personal objectives and not that of their Team's performance. This is done in Team Performance Review.

This is also the place on the system where the individual can comment against their

30 performance for a particular objective. This comment is communicated to their manager

via the Task Manager System. An individual can only comment against a result for an objective's measurement period (defined in Data Dictionary Maintenance), i.e.: if an objective is measured weekly and the agent wishes too comment on why a bad result was achieved then he/she may only do so on the weekly tab.

5

Managers can access each of the team members' Personal Performance Review screens.

A Team Performance Review function allows the Team Leader/Manager to review the performance of those individuals within their team against their individual objectives. This is also the screen which the team leader will view an individual's comments against the performance of an objective and can elect to exclude/override the result from the weekly, monthly results etc. and subsequent ratings. Result exclusion/overide will only be available for an objective's measurement period i.e.: if an objective is measured weekly, then the team leader may only exclude it's result from the weekly tab.

15 If the team leader elects to exclude/override a result for an individual's objective this action will be flagged against the particular result to highlight this amendment. This will be mirrored in the individual's Personal Performance Review to ensure that the individual is also aware of the amendment.

20 This function will normally be used by team leaders, reviewing the performance of the individuals within their team (normally between 10 – 25 staff).

A Focus Statement Maintenance (FSM) screen is to allow the team leader or manager to write or edit a Focus Statement (a line of text) and have this displayed (scrolling across) to an individual on their PR1 Personal Performance Review Screen regardless of the view period selected. This screen is invoked on an individual level or team level, the level ldetermines whether the focus statement is only for a particular individual of for each member in the team.

30 At any one time, only a single focus statement can apply to an individual or team.

Focus statements will not be archived.

A Reward Statement and Ordering function relates to the reward & recognition module and allows each individual user to both view and order rewards on offer. It also provides
5   a statement to the user (similar to a bank statement) showing how many points they have, how they received them and any transactions (purchases) which occurred.

The principle behind this utility is the concept of reward and recognition. Most call centres have some sort of reward system based upon performance. Typically this takes
10   the form of cash incentives for achieving a number of objectives (sales, call handled, team effort etc.). The administration of existing systems is done manually or using excel/access programs. Very few call centres even attempt to introduce a reward type system which, rather than waiting until the end of a year (which is often viewed as long term for a young person) offers the user immediate reward for effort. These points/prizes
15   systems take much administrative effort and most call centres shy away from them.
The reward & recognition module will handle this administration and offers call centres an easy-to-manage mechanism for introducing (and tailoring) their own reward system. Typically, agents and team leaders will receive reward points for meeting or exceeding individual (and/or team) objectives. Some call centres may even give negative points for
20   under-achieving on certain key objectives. The reward system manages the points. The call centre can configure the rewards (cash, tickets, wine etc.) and set the number of points for each reward. Users earn points and can then buy the rewards when they have enough points.

25   A Reward Manager Utility function acts as a log of all prizes ordered/delivered/rejected for each individual who has ever ordered a prize.

When an employee selects a prize via Statement & Order it is logged in the Reward Manager.

30

A Reward Points Editor (RPE) function allows a user to manually adjust the points (by adding or subtracting) of a specific user.

A Team Administrator screen allows the team leader or manager to view and
5   update/amend the schedules for a team on a daily basis.

This information is imported from a workforce management system such as TCS or Blue Pumpkin. Apache will not be able to identify the various codes used by these applications (e.g.: for holidays etc.) and will therefore replace all codes with a question mark (?.) It is
10   then the responsibility of the team leader to amend these question marks into meaningful codes, as set up via Work Exception Code Configuration.

These codes will only deal with full day exceptions i.e.: holidays, sick leave etc.
If an individual doesn't have any logged in ACD time on a day they were scheduled to
15   work an asterisk ('*') will be inserted by Apache in the appropriate day's field. If enabled, an event will then be raised in the Task Manager which will prompt the team leader/manager to invoke the Team Administrator and amend the asterisk from a drop down list of available codes, set up via Work Exception Code Configuration.

20   Note: If the organisation does not use an established workforce management system, they must organise to import the schedule information in an appropriate fashion e.g.: Excel spreadsheet.

A Work Exception Codes Configuration (WECC) screen allows users to configure codes
25   for use in the team administrator. These codes will represent full day codes, i.e.: they will indicate to the team leader/manager why an individual has no logged in ACD time for a particular day.

An Objective Data Entry (ODE) function allows the manager to enter the manual measurement / result as well as the manual rating for an individual's objective.

Certain objectives within an organization are measured in an ad-hoc or intermittent basis. Other objectives may not have an electronic means of attainment. For these reasons

5   among others, we must provide a method which allows the user to enter results / ratings manually.

A KPI Data Entry (KDE) function allows the manager to enter the manual measurement / result for key performance indicators.

10

Certain KPI's within an organization are measured in an ad-hoc or intermittent basis. Other KPI's may not have an electronic means of attainment. For these reasons among others, we must provide a method which allows the user to enter results manually.

15   Regarding reporting,throughout the system there are various screens with 'Print' command buttons which invoke pre-defined reports. These reports are established by using a report writer package, the content is static but may be extended over releases.

20

25

30

Claims

1. A data processing system comprising:-

   data capture means for writing application data to a database;

   a data dictionary for processing the application data and generating a data repository; and

   a performance measurement means for automatically generating performance data from said repository.

2. A system as claimed in claim 1, wherein the data capture means comprises a plurality of APIs.

3. A system as claimed in claims 1 or 2, wherein the application data is written to the database in a flat format.

4. A system as claimed in any preceding claim, wherein the performance measurement means comprises object wizard functions feeding data to performance review and appraisal review functions.

5. A system as claimed in any preceding claim, wherein the performance measurement means comprises a KPI module for generating KPI data.

6. A system as claimed in any preceding claim, wherein the performance measurement means comprises a team administration module.

7. A system as claimed in any preceding claim, wherein the performance measurement means comprises a personal development module.

8.   A system as claimed in any preceding claim, wherein the performance measurement means comprises a configuration function for setting up static data for particular modules.

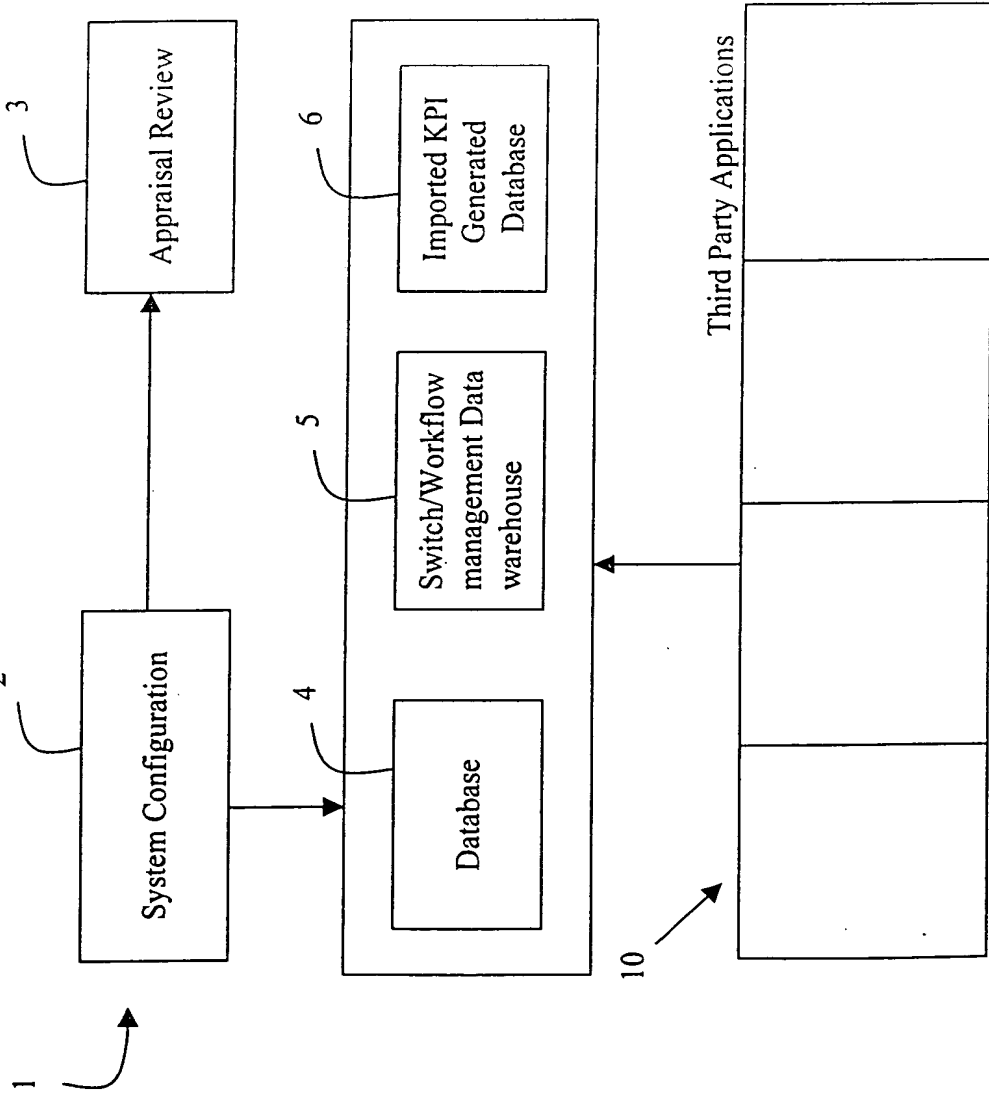5   9.   A system substantially as described with reference to the drawings.
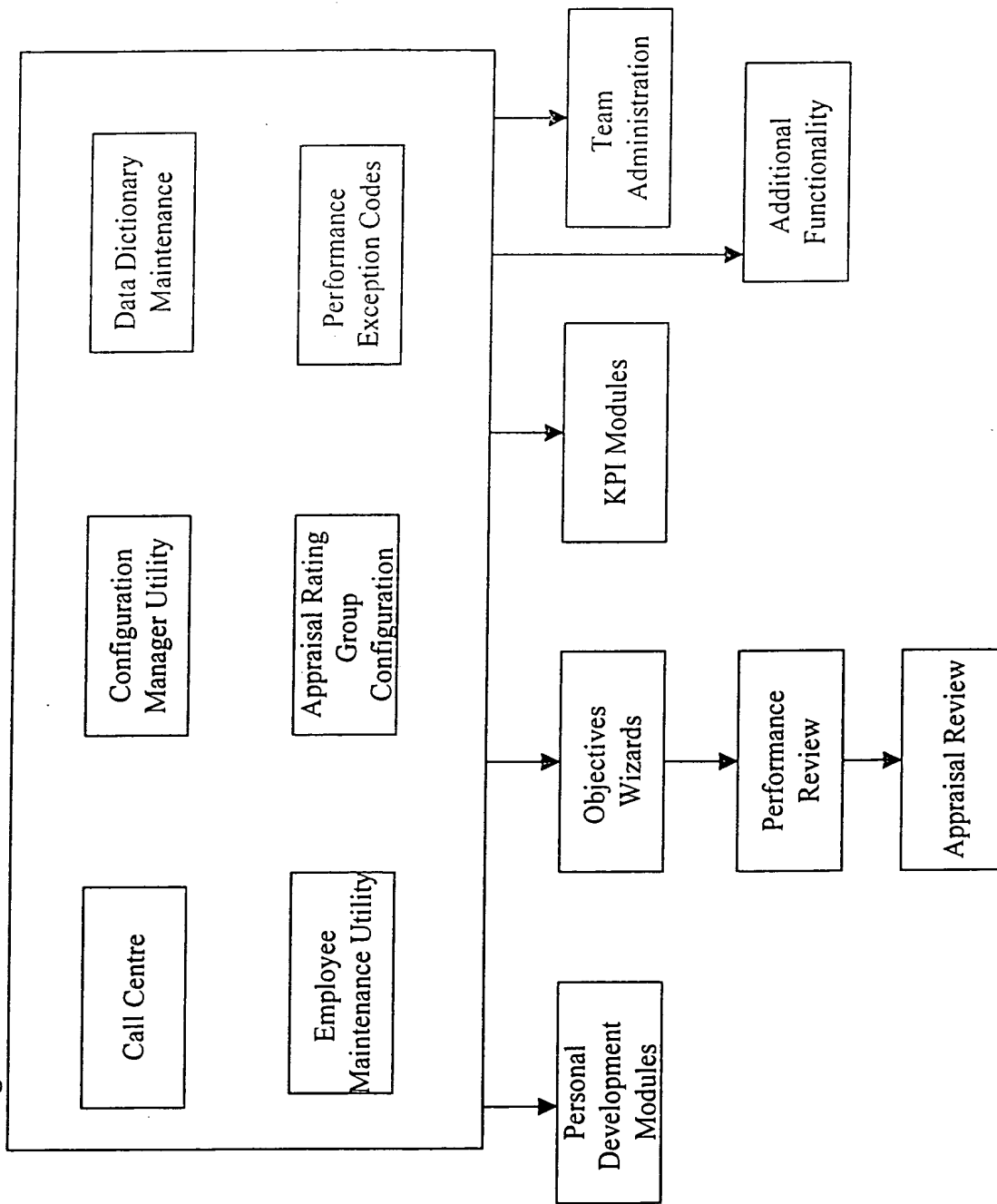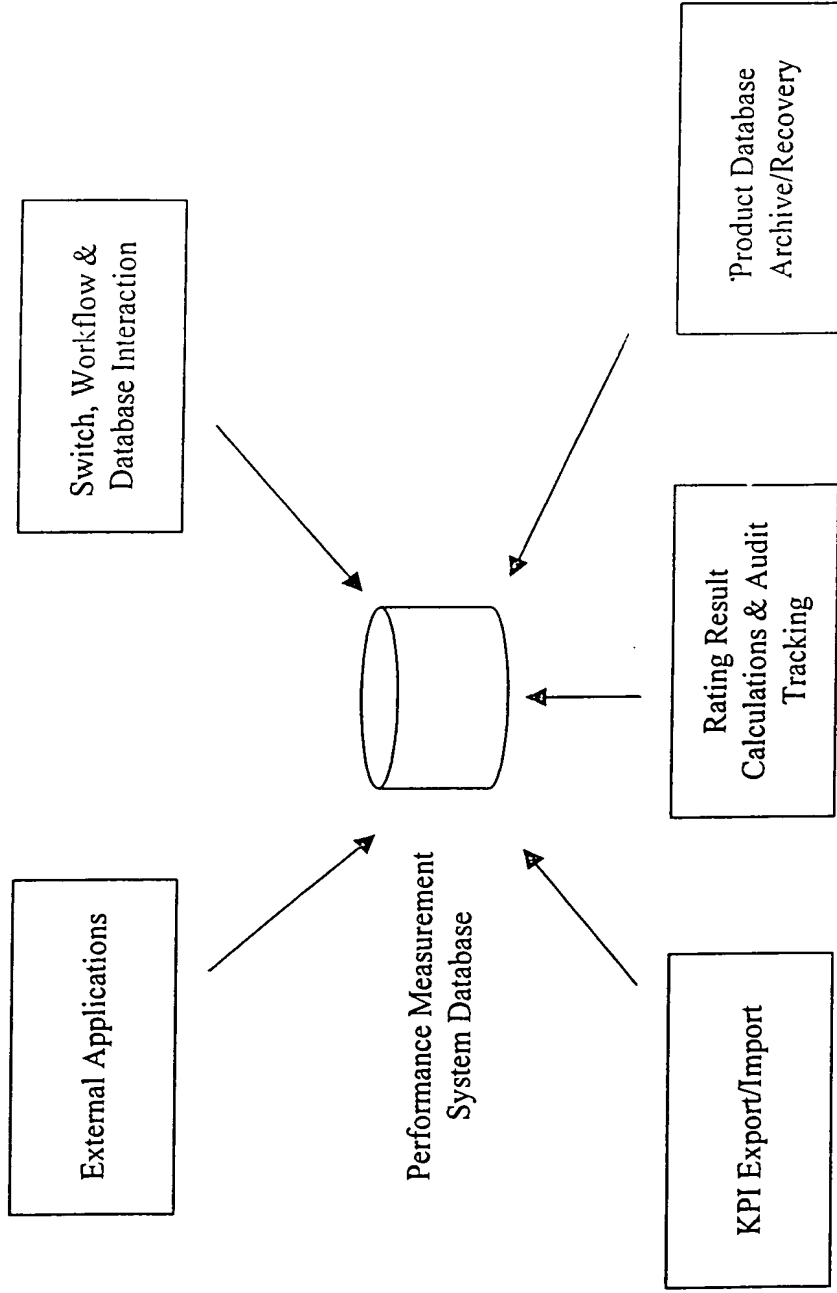
Fig. 1

System Configuration

Call Centre	Configuration Manager Utility	Data Dictionary Maintenance
Employee Maintenance Utility	Appraisal Rating Group Configuration	Performance Exception Codes

Personal Development Modules

Objectives Wizards → Performance Review → Appraisal Review

KPI Modules

Team Administration

Additional Functionality

Fig. 2

Switch, Workflow &
Database Interaction

Product Database
Archive/Recovery

External Applications

Performance Measurement
System Database

Rating Result
Calculations & Audit
Tracking

KPI Export/Import

Fig. 3

Data Dictionary Configuration ☒

General | Formula | Rules |

Name: [Average Handling Time]

Description: [The is Average Time in seconds, that each Agent spends on a call]

Level: [▼]

┌─ Measurement Period ──────────────────────────────┐
│   ⊙ Intra-Day   ○ Monthly   ○ Q................. │
│   ○ Daily   ○ Quarterly   ○ Yearly   │
└──┘

[OK]   [Cancel]   [Help]

Fig. 4

Data Dictionary Configuration ? ☒

General   Formula | Rules |

Field	Description	▲
FGN_VALUE1	AHT	
FGN_VALUE2	Total Calls	
FGN_VALUE3	Call Times	▼
FGN_VALUE4	Inbound Calls	
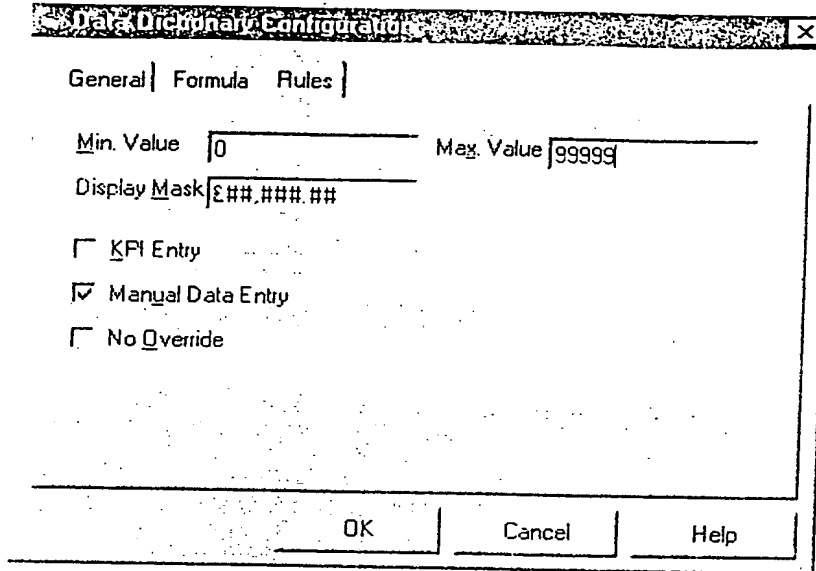
Value 1:   Operator: Value 2:

[sum(fgn_value1)]   [/ ▼]   [sum(fgn_value2)]

┌─ Test Data ──────────────────────────────────┐
│ Result: [1]   [Test]   │
└───┘

[OK]   [Cancel]   [Help]

Fig. 5

Fig. 6